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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,983	07/12/2001	Stephen J. Myers	DP-305003/ DEP-0210	9424
22851	7590	08/03/2005	EXAMINER	
DELPHI TECHNOLOGIES, INC.			TRAN, HIEN THI	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			1764	

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/903,983	MYERS ET AL.	
	Examiner	Art Unit	
	Hien Tran	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/18/05 & 5/12/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The faxed amendment (specification) filed 5/12/05 was not readable. It is suggested that applicants resubmit the above amendment.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “shell having an outer wall and an inner wall” (claim 21), “insulation” (claims 23, 30, 32), double wall end cone (claims 25 and 31), gasket (claim 29) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claims 26, 29 are objected to because of the following informalities:

In claim 26, line 2 "portion" should be deleted (note claim 21, line 2).

In claim 29, line 2 "element" should be deleted (note claim 21, line 2).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 21-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 21, it is unclear as to what is intended by “exhaust system component”, what structural limitation applicants are attempting to recite; in line 5 it is unclear as to what is intended by the “interior portion of the component”, whether the oxygen sensor extends into the interior portion of the shell or the interior portion of both the shell and the oxygen sensor as it appears that the component comprises both the shell and the sensor as recited in claim 21. See claims 27, 28, 31 likewise.

In claim 23, it is unclear as to where the recitation of “insulation disposed ... and in physical contact with the bushing” is disclosed in the specification and drawings. See claims 30 and 32 likewise.

In claim 24, it is unclear as to where it is disclosed in the specification and drawings. See claims 25, 29, 31 likewise.

In claim 28 it is unclear as to what structural limitation applicants are attempting to recite, how the endcone is related to the other elements of the component, such as the shell and the oxygen sensor.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 21-26, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kruger (EP 992,659 - corresponding to US 6,555,570).

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With respect to claim 21, Kruger discloses an exhaust system for an internal combustion engine comprising:

a shell having an outer wall and an inner wall, wherein the shell forms a bushing 59 defining an opening through and connects the outer wall and the inner wall; and

an oxygen sensor 60 disposed through the bushing 59 such that a portion of the oxygen sensor 60 extends into an interior portion of the shell (see, for example, Fig. 2).

With respect to claim 22, Kruger discloses that the bushing 59 has a flat surface on an end opposite the inner wall (see, for example, Fig. 2).

With respect to claims 23 and 30, Kruger discloses provision of insulation disposed between the outer wall and the inner wall and in physical contact with the bushing 59 (see, for example, Fig. 2).

With respect to claim 24, Kruger discloses that the bushing 59 is in the rounded portion of the shell (see, for example, Fig. 2).

With respect to claim 25, Kruger discloses that the shell is a double walled end-cone (see, for example, Fig. 2).

With respect to claim 26, Kruger discloses that threads are formed in the bushing (see, for example, col. 9, lines 1-2 and Fig. 2).

Instant claims 21-26, 30 structurally read on the apparatus of Kruger.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruger (EP 992,659 - corresponding to US 6,555,570) in view of Matsushima (5,615,551).

The apparatus of Kruger is substantially the same as that of the instant claims, but is silent as to whether the oxygen sensor may be located at the end-cone and at a specific angle as claimed.

However, Matsushima discloses provision of an oxygen sensor 36 being positioned in the endcone of the shell of catalytic converter unit and extending through said bushing 34 (Figs. 2-5), wherein said oxygen sensor 36 is positioned within said catalytic converter component at an angle less than 90 degrees to the centerline of the catalytic converter component (Fig. 3, col. 3, lines 1-12).

However, at the time of the invention was made, it would have been obvious to one skilled in the art to place the oxygen sensor of Kruger at the endcone or at a specific angle as taught by Matsushima since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by Matsushima and

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since it has been held that rearranging parts of an invention involves only routine skill in the art.

In re Japikse, 86 USPQ 70.

13. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kruger (EP 992,659 - corresponding to US 6,555,570) in view of Nishio et al (4,883,643).

The apparatus of Kruger is substantially the same as that of the instant claim, but fails to disclose provision of a gasket.

However, Nishio et al discloses provision of a gasket 16 for preventing leakage of the exhaust gas from between the sensor and the wall.

It would have been obvious to one having ordinary skill in the art to provide a gasket as taught by Nishio et al in the apparatus of Kruger for preventing leakage of the exhaust gas from between the sensor and the wall.

14. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruger (EP 992,659 - corresponding to US 6,555,570) in view of Matsushima (5,615,551) and Nishio et al (4,883,643).

The same comments with respect to Matsushima and Nishio et al apply.

15. Claims 21-28, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima (5,615,551) in view of in view of Kruger (EP 992,659 - corresponding to US 6,555,570).

With respect to claims 21, 23, 25, 27-28, 30, Matsushima discloses an exhaust system for an internal combustion engine comprising:

a catalytic converter unit 10;

a bushing 34 provided in a shell wall of end cone of said catalytic converter unit; and

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an oxygen sensor 36 positioned within exhaust flow of the catalytic converter unit and extending through said bushing 34 (Figs. 2-5), wherein said oxygen sensor is positioned in said endcone at an angle less than 90 degrees to the centerline of the catalytic converter unit (Fig. 3, col. 3, lines 1-12).

The apparatus of Matsushima is substantially the same as that of the instant claim, but fails to disclose provision of a double walled shell/endcone with insulation therebetween.

However, Kruger discloses provision of a catalytic converter unit includes an insulated wall construction having an inner wall spaced from an outer wall.

It would have been obvious to one having ordinary skill in the art to provide an insulated wall construction of Kruger in the apparatus of Matsushima since such insulated wall construction would provide a good thermal insulation as taught by Kruger.

With respect to claims 22, 26, Matsushima discloses that the bushing has threads 44 disposed through the shell wall (col. 4, lines 15-24, Figs. 3-4); and a substantially flat surface 50 (col. 2, lines 62-67; Figs. 3-4).

With respect to claim 24, Kruger discloses that the bushing 59 is in the rounded portion of the shell (see, for example, Fig. 2).

At the time of the invention was made, it would have been obvious to one skilled in the art to place the oxygen sensor of Matsushima at the rounded portion of the shell as taught by Kruger since positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art as evidenced by Kruger and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

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16. Claims 29, 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima (5,615,551) in view of Kruger (EP 992,659 - corresponding to US 6,555,570) and Nishio et al (4,883,643).

The same comments with respect to Kruger and Nishio et al apply.

Response to Arguments

17. Applicant's arguments with respect to claims 21-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT

Hien Tran
Hien Tran
Primary Examiner
Art Unit 1764